

WHAT IS CLAIMED IS:

1. A method for preparing a grain with increased total dietary fiber content comprising heating a base grain having a total moisture content of from about 8% to about 85% by weight based on the dry weight of the grain, at a
5 temperature of from about 65 °C to about 150 °C, under a combination of moisture and temperature conditions to provide a heat-treated-grain having an increase in total dietary fiber content ("TDF") of at least 10%.
2. The method of Claim 1 wherein the granular structure of the heat-treated grain is not completely destroyed.
- 10 3. The method of Claim 1 wherein the base grain contains a component starch having at least 40% by weight amylose content.
4. The method of Claim 1 wherein the total moisture content of the base grain is from about 24% to about 55% and the temperature is between about 90 °C to about 125 °C.
- 15 5. The method of Claim 1 wherein the base grain is corn.
6. The method of Claim 1 wherein the base grain contains a component granular starch that has at least 65% by weight amylose content.
7. The method of Claim 1 wherein the base grain is degerminated.
8. The method of Claim 1 wherein the total moisture content of the base
20 grain is from about 20% to about 45% and the temperature is between about 90 °C to about 125 °C.
9. The method of Claim 1 wherein the base grain is obtained from a plant source having an amylose extender genotype, the component granular starch comprising less than 10% amylopectin determined by butanol
25 fractionation/exclusion chromatography measurement.

10. The method of Claim 9 wherein the base grain has a total moisture content of from about 20% to about 35% and the heating is at a temperature of from about 90 to 120°C.
11. A grain made by the method of Claim 1.
- 5 12. The grain of Claim 11 having an increase in TDF content of greater than 30%.
13. The grain of Claim 11 further comprising a higher onset temperature than a corresponding un-treated grain.
14. The grain of Claim 13 further comprising a higher delta H than a
10 corresponding untreated grain.
15. The grain made by the method of Claim 3 having a higher TDF and RS than a corresponding untreated grain.
16. The grain of Claim 11 wherein the amylose content is between about 50 to about 69% by weight of the component starch and having a TDF of at
15 least than 45%.
17. The grain of Claim 11 wherein the amylose content of the component starch is between about 70 and about 89% and having a TDF content of at least 58%.
18. The grain of Claim 11 wherein the amylose content of the component
20 starch is greater than 90% and having a TDF content of at least 75%.
19. A starch isolated from the heat-treated grain of Claim 11.
20. A food product containing a grain prepared by the method of Claim 11.
21. The food product of Claim 20 comprising cereal, bread, crackers, cookies, cakes, pasta, beverages, fried and coated foods, snacks, dairy
25 products, and cheeses.